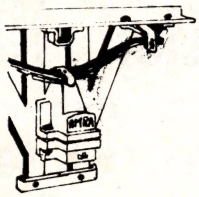

JOURNAL BOX

5/77

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Contents.

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Editorial.

Our Guest Editorial this issue is by Broughton Boydell.

The following has probably been seen before, but here goes:

Getting a magazine out is no picnic,
If we print jokes, people say that we are silly,
If we don't, they say we are too serious.
If we publish original matter, they say that we lack variety,
If we publish things from other magazines, they say we are lazy.
If we criticise, they say we should not,
If we do not, they say that we are not fulfilling our duty to our readers,
Like someone is bound to say we pinched this from another magazine.

Now do not blame me, but Broughton Boydell did, from an old Mixed Goods.

Rex Little.

****

ON THE COVER.

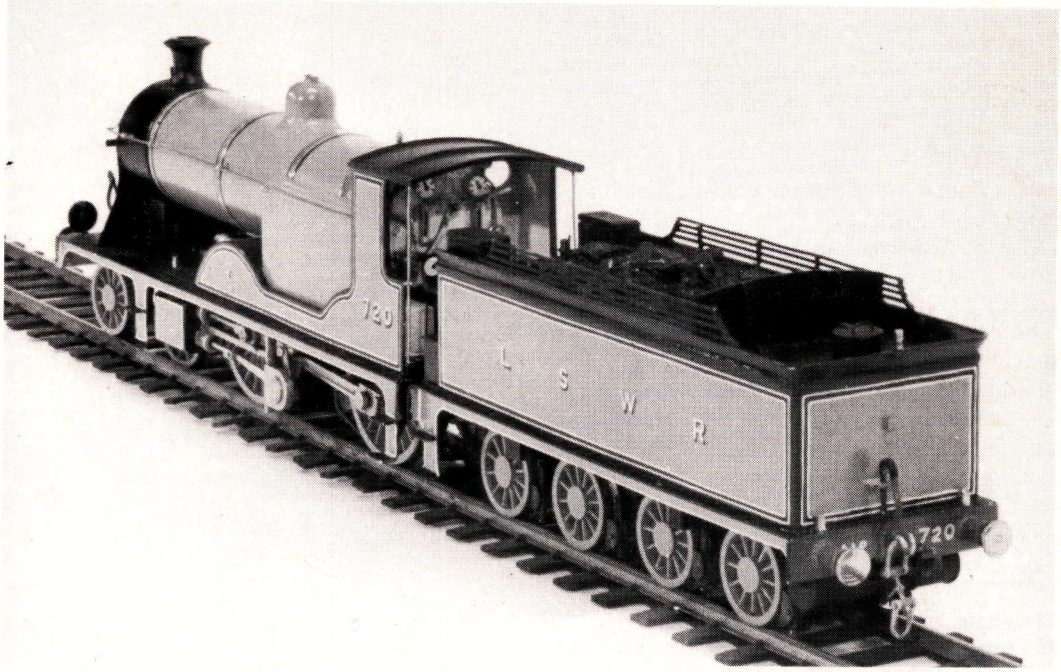
The new Westrail Centre, East Perth, with S 542 "Bakewell" 4-8-2 permanently displayed outside.

Photo by Graham Watson.

The Association's competition 1976

Judged by Bill Cooper
— Photos by Jack Parker

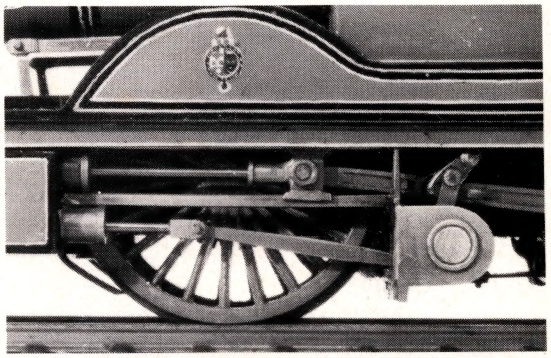
Scratch built locos.



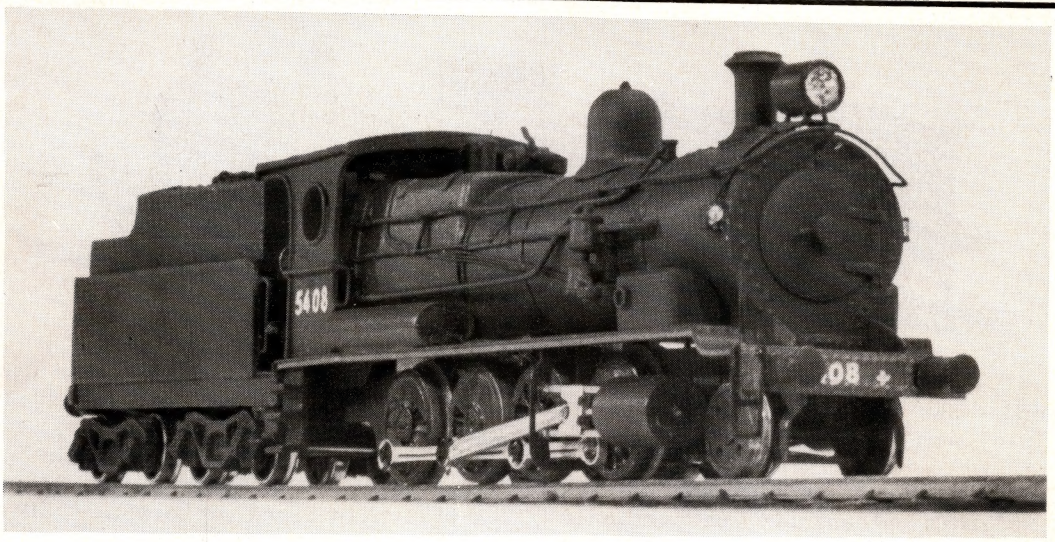
First - Drummond LSWR T7 Class, 4-2-2-0 4mm scale, built by Peter Betts.

This is a magnificent effort! The rather complex prototype has been modelled with great fidelity and attention to detail. The finer bits, which abound on this design are reproduced with a fine sense of proportions. In fact the model simply looks as the prototype would at a distance away - and from any angle. No easy task in a small model.

Mechanically the model is ingenious. A fly wheel equipped tender mounted motor, drives both axles via a universal jointed shaft (scratch built) and open worms and worm wheels. The prototype lacked connecting rods, as is obvious from the Whyte rotation. The inside cylinder valve motion is eccentric driven from the leading axle! The inside bearing tender suspension is fully articulated, and must be a track hugger in service.



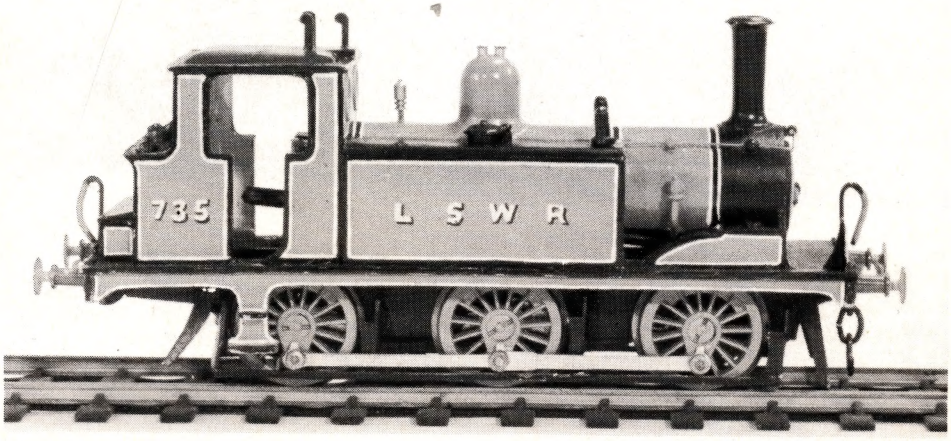
I trust that the photographs do full justice to this absolutely magnificent miniature.



Second - D 52 Class, NSWGR 2-8-0. 3.5mm scale, by Ken Dunkley.

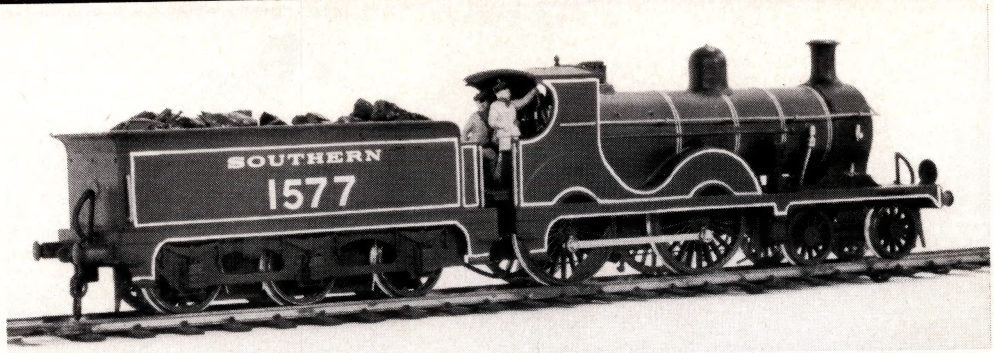
A fine model of a type so common only yesterday. Detail is good, and includes lubricator lines, and cab details. Painting and lettering are neat, though the technique of gluing small details, e.g. marker lamps, with glossy ACC detracts a little from this. In all, a model of which the builder can be proud.

Kit built Locos.



First - LSWR 0-6-0 (ex LBSC "Terrier") 4mm scale, by Peter Betts.

This beautiful model is a considerably modified "Ks" kit. Much fine detail has been added, route indicating discs, brake gear, and special push-pull equipment. Mechanically the model is fine yet sturdy. Painting and lettering is precise, accurate, and once again sturdy. Despite its small size and extensive fine detail, this little gem, will I think, emulate its full size counterpart in reliability, outperforming many larger engines.



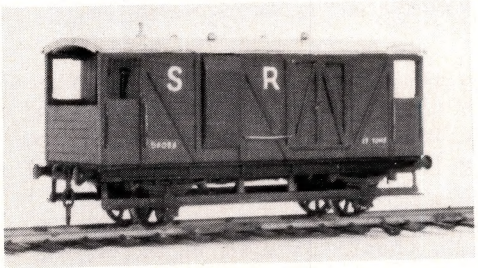
Second - SR (ex SECR) Wainwright D1, 4mm scale, by Phil Knife.

This is a very neatly built Wills kit of this pleasantly proportioned design. Most of the bits evident on the prototype are faithfully modelled though the handrails are a trifle heavy. Mechanically, the loco is neat and workmanlike. The paint work is most realistic, the satin sheen (Estapol) being just right, in my opinion, to represent a well maintained prototype. Decals are very neat. The model is obviously capable of much hard work.

Scratch built rolling stock - Goods.

First - SR Express Brake, 4mm scale, by Phil Knife.

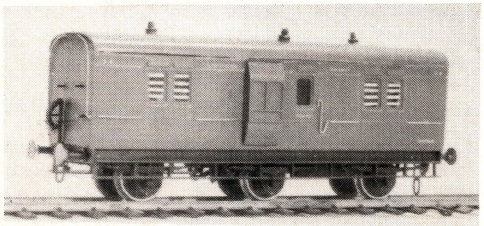
This neat, solid model, of an unusually lanky prototype design is competently built. It contains enough detail to be convincing, is well weighted, and rolls smoothly on sprung bogies. Painting and lettering are in keeping with the models construction.



Second - SR (ex LSWR) Brake, 4mm scale, by Peter Betts.

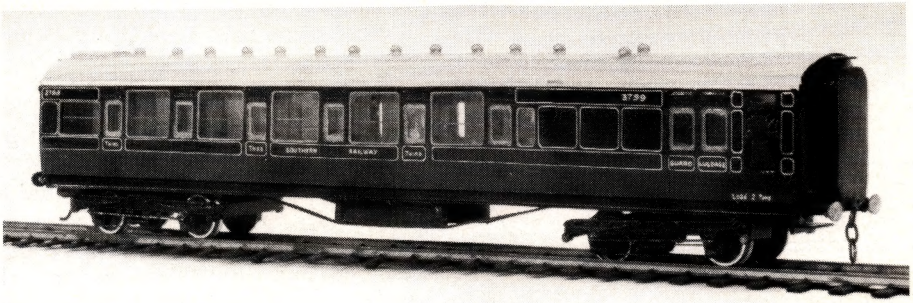
Another interesting SR brake, in plywood, brass and riding on a modified Hornby-Dublo frame which has been equalised and fitted with Jackson wheels. Rather coarse three link couplings are fitted.

Kit built rolling stock.



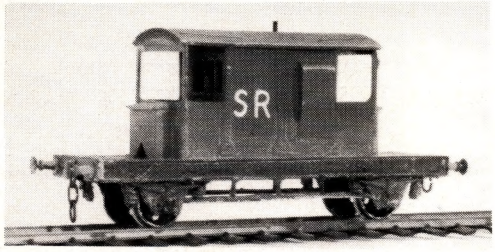
First - SR (ex LSWR) Passenger Brake, 4mm scale, by Phil Knife.

Much scratch building was involved in completing this Roxey moulding kit. Detail is fine and thorough, including handrails, underbody details, running boards. Paint and decals are neatly applied, and Estapol satin finish gives a realistic and durable finish.



Second - SR Mounsell Brake Third Corridor Coach, 4mm scale, by Peter Betts.

Very neat lettering and lining (hand) compliments this neatly assembled BSL kit. Some simple details fill the interior, eg. partitions and corridor hand rails. Unfortunately, underbody detail is minamal, and proprietry freight 3 link couplings detract a little, but the overall effect is realistic.



Third - SR Brake, 4mm scale, by Peter Betts.

A nicely assembled K s kit. Weathered in appearance.

Photographer's Comments.

All the photos were taken with a Miranda Sensorex II camera, fitted with a Miranda 1:1 55mm Macro lens. The subjects were photographed against a background of white drawing paper.

Lighting was four incandescent lamps totalling 700 watts. They were positioned in a rough semi-circle, about one and a half metres sway and two thirds of a metre higher than the subject. The lamps were titled upward so that the main beam was high, the subject being illuminated mainly by the penumbra. The film used was Ilford FP3, 125 ASA, 22 DIN. The aperture setting was f 32, and the exposure was 15 secs.

The film was developed in Ilford IDII developer. The stock solution was made up normally, and then diluted, one part developer to three parts water, for developing the film. Development was for eight and a half minutes at 20°C, in a tank with 300ml of solution (75ml stock solution, 225ml water).

A.M.R.A. Journal requires prints 80mm wide, for one column, 165mm wide for a full page. For good reproduction, prints should have blacks, whites, and a full range of middle tones. They should be neither contrasty, nor muddy. Prints should be done on smooth, glossy grade, medium contrast paper.

The entries in the contest were very colourful, and it is a great pity that we cannot reproduce full colour photos in Journal. The hand lettering, lining, and coat of arms, were a delight.

****

THE GROWTH OF A GIANT LAYOUT

BY NORM READ

An outline of how a large Exhibition "O" gauge layout developed. The diagram in Fig. 1 is how the layout appeared at the first Town Hall Exhibition in 1963.

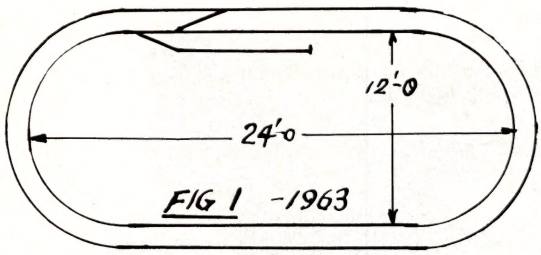


FIG 1 -1963

The track work laid on sleepers, nailed to longitudinal battens, made in approx. 6 ft. lengths was supported on light trestles. Each circuit was separately controlled using 24v batteries. There were no facilities for changing trains or shunting. Changing a train means lifting it off to the floor and placing a new one on the track. At least the quality of the rolling stock did to some extent compensate for the rather crude operating methods. However we were able to demonstrate to the public that another gauge did exist beside HO/OO.

The outcome of this state of affairs was a decision to build an "O" gauge for exhibition purposes large enough to handle reasonable length trains and provision for easy changes of trainsets. Fig. 2 shows the track design that appeared at the 1965 show.

The side with the looplines was completely new, being built on four base board sections each self supporting by means of folding legs and electrically connected by means of Plessy 20 pin plugs and sockets. The remainder of the track utilized existing track sections built by Col. Shepherd many years ago, but now sitting in chanel type troughing, refer to Fig. 3. The straight sections were supported on trestles, the curved on bolt-on legs. Also this year was the appearance of the station platforms, each of two 6 ft. long sections (built by the late Bob Stone).

The control board was laid out in a diagramatic manner as shown by Fig. 4. Kellogg telephone keys were fitted in positions as illustrated and wired as shown in Fig. 4a to operate relays, which had the dual purpose of changing the points and switching the track power. This method of wiring ensures that only one track can be powered at any one time. Fig. 4b shows how the relay switching could be done, using diodes. Single plug connectors were used for electrical connections between the remainder of the sections.

The outer track has always been powered by 24v DC and the inner by a multi-tapped transformer from which after rectification 6 to 17v is available. We were now able to have 7 complete trains to run as selected.

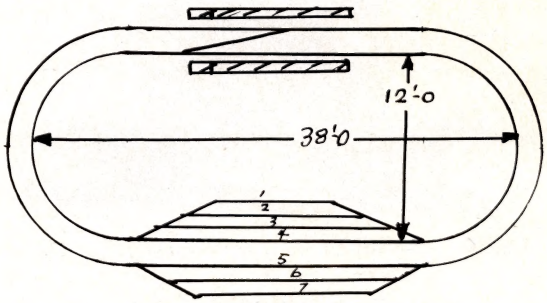
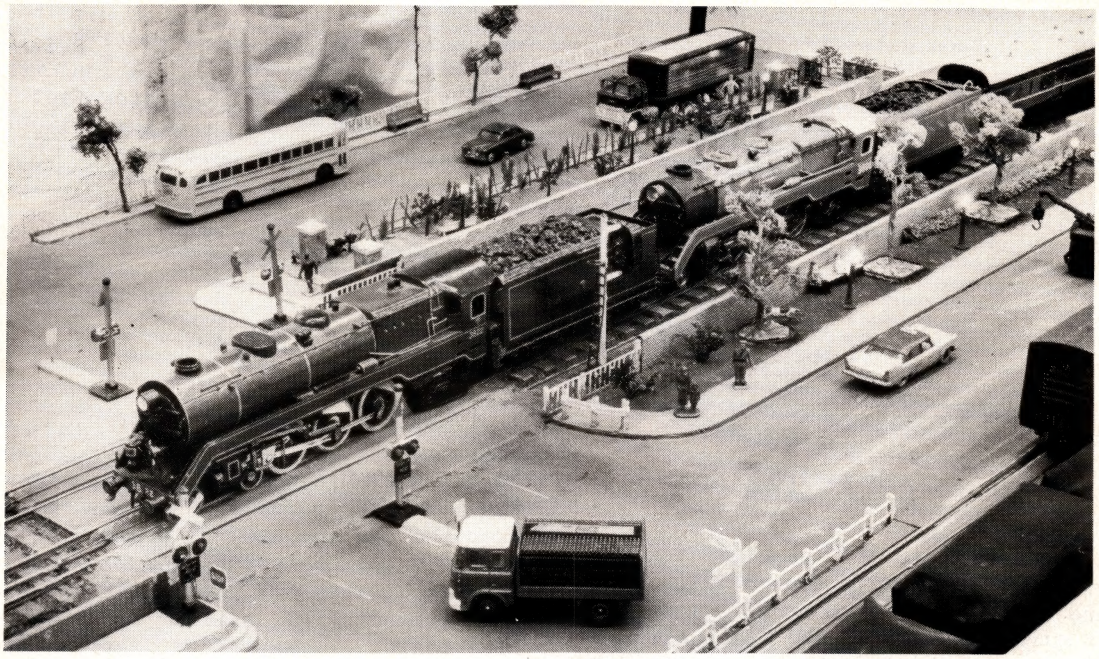


FIG 2 -1965

Next year the operating turntable made its first appearance, along with some roadway sections and the overhead footbridge and ticket office for the station platforms, again by Bob Stone.



Double headed 38's were rare in prototype, and are also rare on this layout. The scene was arranged for photography and is not usually seen at exhibitions. The level crossing has automatic warning lights, and the lighting in the park is supplied through a timing device which switches them off periodically.

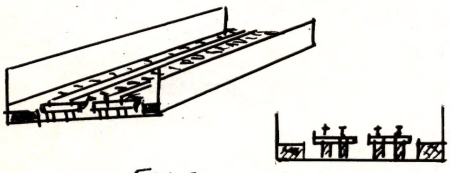


FIG 3

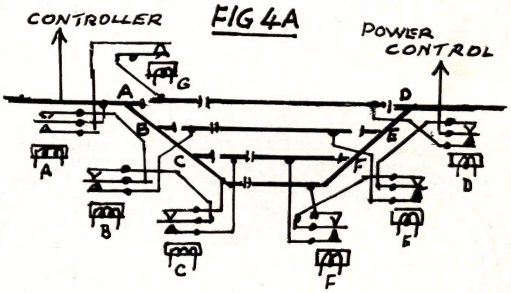


FIG 4A

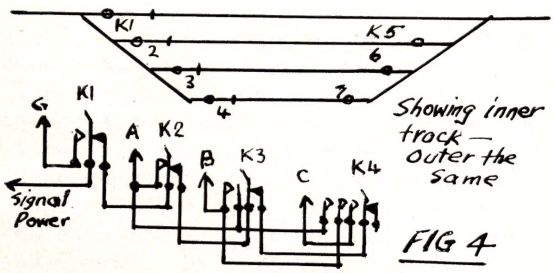


FIG 4

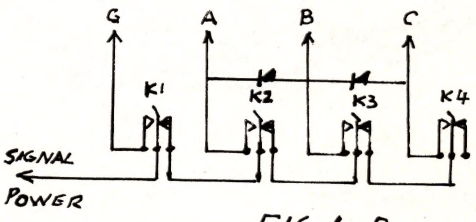


FIG 4 B

Also a road level crossing with non operating boom gates, refer Fig. 5.

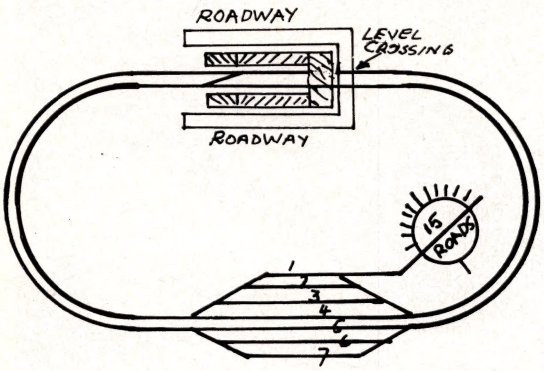


FIG 5 - 1966

The station was also fitted with electric lighting which was switched on and off manually (at rather irregular intervals). Also some track circuiting was introduced in the loop siding area, this was to overcome the somewhat spectacular rear end crashes that did at times occur, through the operators inattention to route setting. Care must still be exercised in stopping some lengthy trains to see that they do not foul at rear or front ends, causing sideswipes.

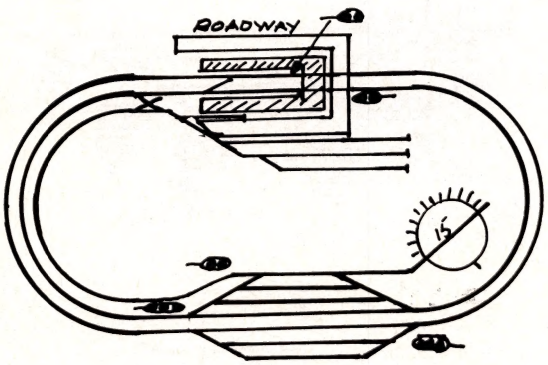


FIG 6 - 1967

In 1968 the curved crossover, between the outer and inner tracks came into operation, plus the original crossover in the station, which up to this state, had never been used. These moves increased the operational possibilities, allowing more variation in the trains on both tracks, refer Fig. 7. Automatic timing for the station lighting was also fitted this year.

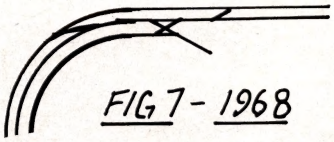


FIG 7 - 1968

1969 the outer relief road was in operation, this now allowed four trains to be interchanged on the outer track, Fig. 8. The point at X was controlled from the station switch board, which controls all the points and sidings in this area, this was also built using a schematic diagram, similar to the main line board. The writer prefers this type, as it is easily seen which keys need operating to move a train from one position to another. This board also controls the movements of trains in or out of the yards onto the main lines.

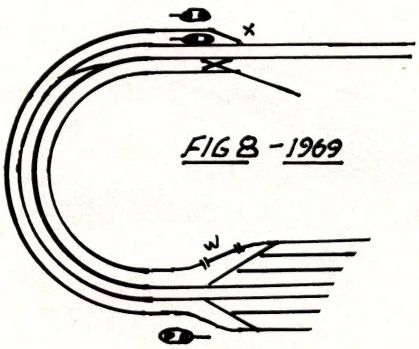
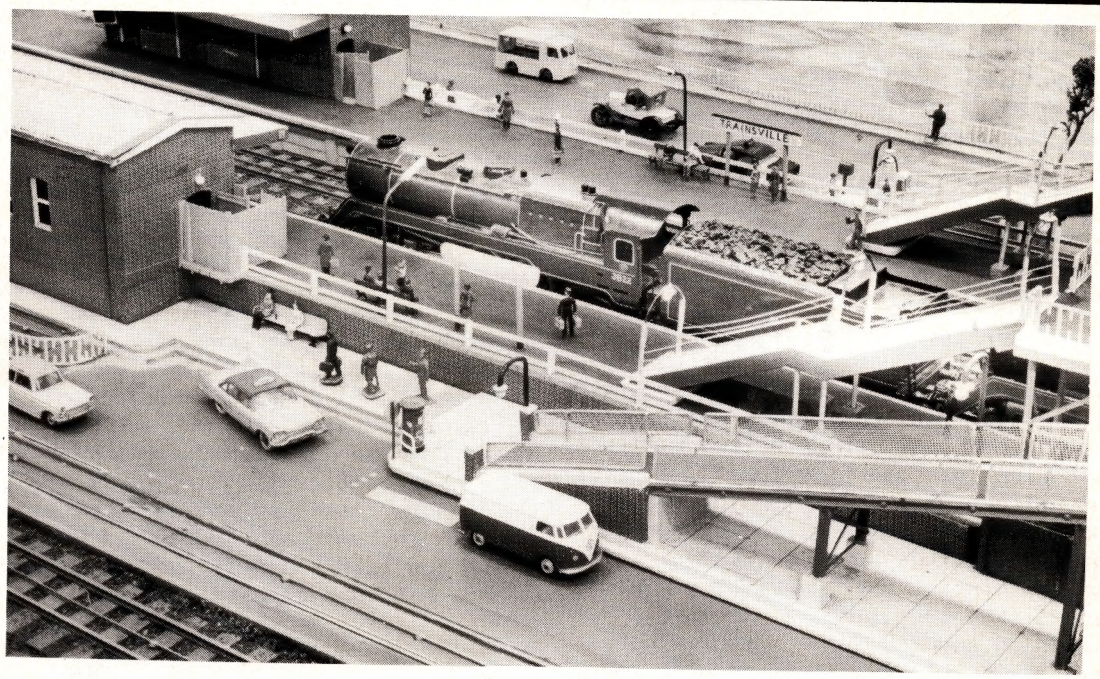
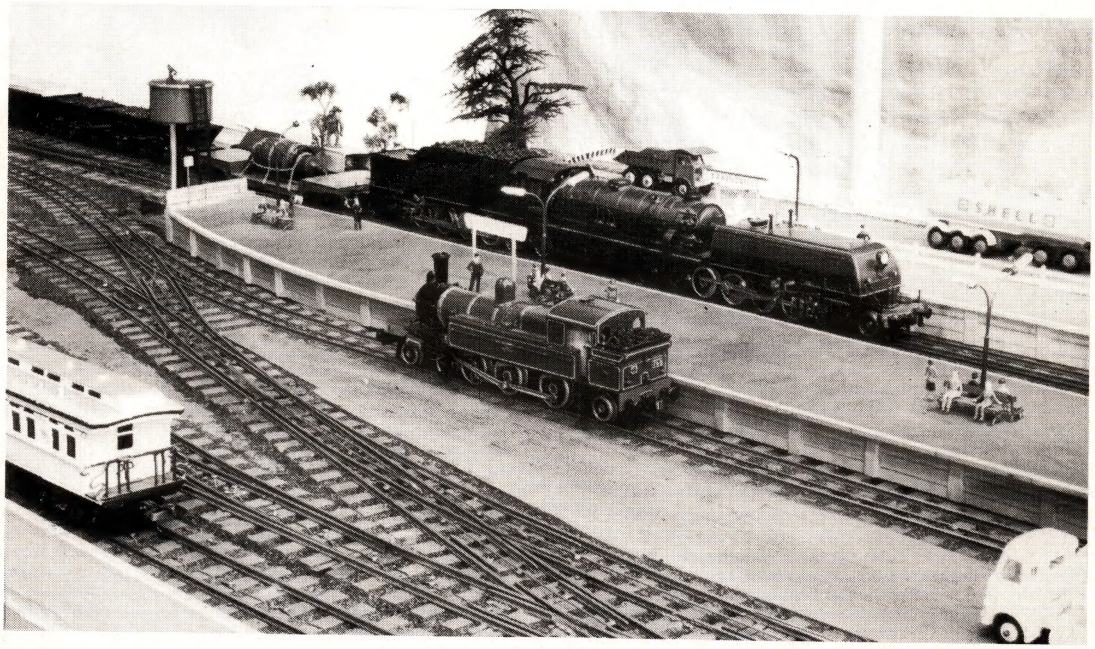


FIG 8 - 1969

The normal procedure for a train leaving the sidings, is to run around the inner loop to the section W, where it waits for the turntable operator to take over and bring it into road 1, the engine is uncoupled, run onto the turntable and stabled in a suitable road. Another loco is selected and duly coupled back onto the train. Before this train moves out onto the main



Thirty eight twenty-two glides through the main station with the flyer. The human figures and road traffic help to create this busy scene.



Col Shepherd s Garratt loco is an attention getter everywhere this layout is exhibited. A V.R. D4 class stands quietly in the bay platform, taking a respite from shunting. A dental car can be seen at the left of the picture.

line, the operator at the station control withdraws one of other trains running through roads 2-3-4, which one is determined by the length of the train and the siding length available.

It was at this stage that the layout was taken to Melbourne for the first branch exhibition at Hawthorn, it survived the trip fairly well and ran with only minor problems.

On the return trip, the thought occurred, that something different needed doing, to reduce the number of separate items required to set the whole thing up, at the time there being 60 pieces counting legs and trestles. After much study and straining of the grey matter, four frames were built on self supporting legs, on these everything in the station area was firmly fixed, and at the same time, advantage was taken to add yet another four sidings, all of which have isolated dead ends. This rebuild was ready for the 1970 exhibition, Fig. 9.

During the period 1971-73, extension pieces were added to both ends of the sidings as per Fig. 9. The curved sections were consolidated into 8 complete sections instead of the previous 24 separate pieces. Ballasting of the track was completed. The four track pieces were fitted with 20 pin plugs, the double track sections are electrically connected, through brass strip contacts, which positively make, when the sections are bolted together. Provision was made to introduce full track circuiting. The points at X were transferred to the control of the main line operator. The baseboard sections were also repainted in a lighter colour and new curtains made to fit right around the outside of the layout, which improved the visual effect. The main scissors crossover was also rebuilt.

For the first couple of years, there were six 6 x 4 ft. dividing screens down the centre of the layout, one side was painted masonite, with some background scenery sheets, the other side was blue plastic sheeting on which photos and signs could be attached. However as these called for a third vehicle to transport them, and the problem of storage when not in use, lead to them being replaced with a system of rods and curtains which only take up a fraction of the room.

Prior to our second visit to Melbourne in 1974, two smaller sidings were installed adjacent to the turntable, for the storage of rail motors, see Fig. 10. In 1975, these two sidings were extended, one additional long siding installed in the station yards and the two existing ones were extended as seen in Fig. 11. The smaller scissors crossover in the yard was rebuilt to remove an S. bend. New style station lights were fitted, as the older ones had been damaged and bent.

For the benefit of the critics, who maintained that the layout never appeared to change, a competition was held to find out how observant the regulars were. I think a lot were a bit bashful of entering, but of those that did none identified all the alterations. There were some remarkable entries, some items which had existed for some years cropped up in the answers. 1976 saw the extension of track circuiting, the remodelling of the colour light signals using L.E.D.s and transistorized control in the station yards. At present I think we have reached our limit on trackwork without considerable alterations.

The building of this layout has always presented problems, because of its size. It had to be built a section at a time and if the weather permitted, three straight sections could be fitted together on the driveway in front of the garage. Otherwise there was a limit of two sections inside. Consequently it was a matter of speculatuon as to how the whole lot would assemble at the exhibition. We have now only on three occasions been able to set up the whole layout in the branch

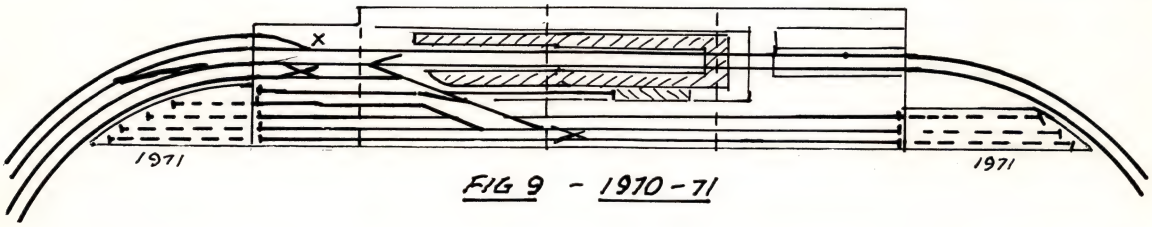
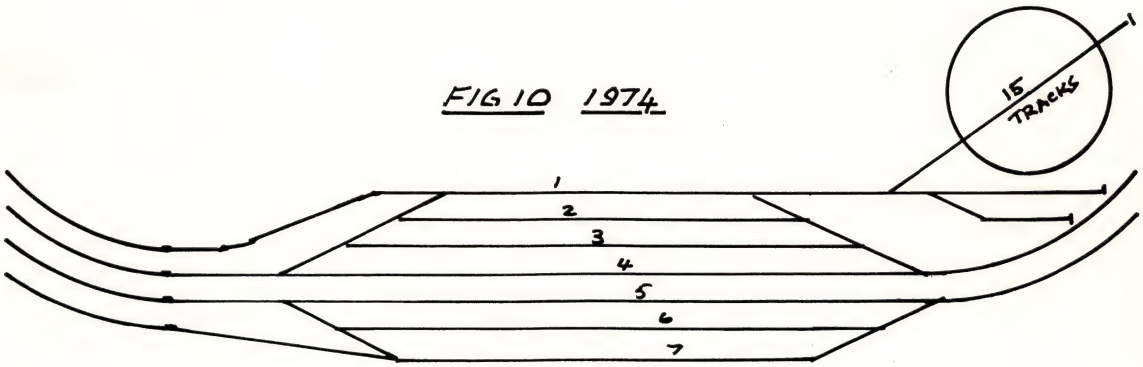


FIG 9 - 1970-71

FIG 10 1974



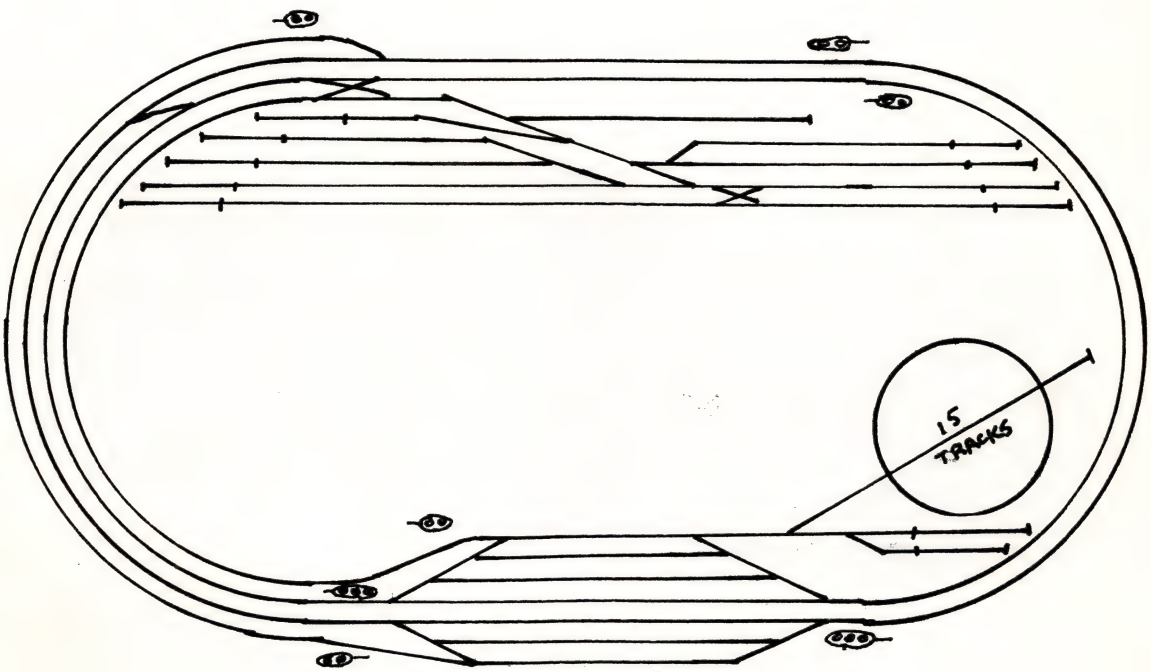


FIG 11 - 1975

clubrooms, to enable modifications and adjustments to be made. The area required is 40 by 20 ft., consequently, the layout spends most of its life packed away on a trailer until required.

It has always been a three rail layout, although some sidings have stud contact. All motive power is fitted with skate collectors. Col. says his locos run better on three rail than on stud. We have not considered changing to two rail, due to the large quantity of rolling stock involved, and 3 rail does make signalling easier. Many other modellers are also three rail and it gives them an opportunity to see their stock in action on a large layout. There are 7 separate power units used for traction, signalling and lighting purposes.

Movements in and out of the station yards are under the control of that operator. The circuitry is arranged to give electrical interlocking, and thus avoid any spectacular crashes which on occasions have occured in the past, much to the spectators delight, but not without some embarrasment to the operator. It has been found that the old story, of not talking to the driver whilst the train is in motion, applies in the model world as well, especially when shunting movements are in hand.

The layout can at present accomodate 20 complete trains, including 5 rail car sets, plus spare engines in the round house. The electrically operated turntable is large enough to handle the AD60 locos. This all in all allows for quite a lot of activity around the layout, depending on the abilities of the operators.

The majority of the rolling stock, follows N.S.W. prototype, although there are a couple of ring-ins, However any locos with skate collectors, 1 1/8"back to back and which can operate between 6 and 24 volts DC can run on this layout.

There has been some criticism on the lack of scenery, but I am sure those who may be familiar with the setting up or packing up, will be aware of the problems including the one of storage and transport. Another point to be considered is that the whole layout including the track and the rolling-stock has been scratch built by Col and myself, even the trailer is a special.

This is Norm Read's Shay locomotive, painted and weathered by Bill Cooper. This hard working loco can usually be seen at the head of the circus train, a great favourite with the younger viewers.

****

From the inside looking out - Boys and girls of all ages admiring the "O" gauge layout at the Sydney Exhibition 1972. Photo Rex Little.

NORTH SHORE RAILWAY MODELLERS ASSOC. — MODEL RAILWAY CONVENTION

This Association is to hold a model railway convention open to all comers on the weekend starting Friday evening 28th October, 1977. The convention will be held at Camp Carey convention centre, Wentworth Falls, N.S.W., and all accommodation and meals will be provided from suppertime Friday to Sunday lunch. The cost will be a low $18.00 per adult, and this includes everything. Accommodation will be in cabins in beautiful mountain surroundings. The centre includes a recreation hall where meals are provided, and other activities take place.

The convention is planned as a family weekend, rather than purely a modellers convention. Children of primary age or under, will be accommodated at a price reduction of $4.50 each. As far as possible families will be kept together in their own cabin, but as accommodation is very limited, some segregation may be necessary.

A firm booking has been made for this convention centre, and the proposed activities will go ahead with a minimum of 25 people. As commitments nearing this number have been already received from the host club, the probability that the affair will be abandoned due to lack of numbers is very remote. The maximum number that can be accommodated will be about 60.

Convention activities will include discussions, clinics, drawbar pull contests, slow running contests and railway films. There will also be plenty of free time to enjoy the surroundings or visit places of interest. There will be static displays of model railway items at the centre, and possibly one working layout. Depending on numbers, there will also be organised activities for the children. If you are interested in joining the convention, please contact P.J. Betts, 40 Merrilee Cres., Frenchs Forest, N.S.W. 2086. If you wish to bring your family, please give details of their ages etc. A refundable deposit of $2.00 per person will be necessary to secure your booking.

Model railway conventions are not a new idea, and several attempts have been made to organise them in this country. Unfortunately many of these attempts have been aborted due to lack of response. As a result of this experience, the smallest possible convention has been organised, and accommodation problems eliminated by booking a convention centre in which all delegates live in. Do not delay in making your reservation, as numbers are extremely limited. If you are not particularly interested in convention activities then come along anyway, and enjoy a pleasant weekend in the Blue Mountains at an all up price a quarter of that which you might pay at motels. If this venture is a success, a larger one will be organised next year in a similar location.

Peter Betts.

****

HONOURARY LIFE MEMBERS.

Tim Dunlop	Cedric Rolfe
Margaret Dunlop	Faith Dean
Alan Wilson	Ernie Dean
Rick Richardson	Norm Read
Arthur Harrold	Rex Little
Jack Treseder	Maurie McKinnon

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ST. ERIC'S (MODEL) RAILWAY SYSTEM —

Developing ideas Part B

By Eric G. Watson.

We have seen that the first rule is to consider "how can I develop this idea to get it on MY layout?" So we will have a look at one.

Driving past Moe (Vic) I noticed the Historic Park. There is a novel idea for model railway scenery. I drove back a few months later, looked around and took some photos.

The idea is to get a Historic Park on to the layout, but not a fine scale model of the one at Moe. Catalogues provided plenty of suitable buildings but the idea required more space than I had available. Thus I settled for a very nice park with picnic facilities.

Came the new layout, and a most awkward spot. No idea I could come up with could be fitted in. Still, model railway ideas are all around us. I noticed that the area was similar to that at a nearby station. Over the footbridge, on to a lawn, with a row of old fashioned shops. Moe!! Off to the Model Dockyard (what a mighty place) and purchased Heljan B809,B810, and B811. Four of the buildings fitted nicely. I added an old engine in a park, and put a different footbridge on. It looked quite good, but what was it? Too small for an Historic Park, and no good for a shopping centre.

Sooner or later someone is going to let the cat out of the bag on my naming system - probably me, as it amuses me no end. But not this area, it was not named for amusement.

Sufficient to say that I feel a deep sense of gratitude to Mr. Betts for his article in Journal 120, but why is one of those things one could not express in words. So far as I am concerned that article worked a miracle, so the area was named and developed with the best that I was capable of as a tribute to him. It is "St.Betts" and the only name for the area was "St. Betts Old Town" re-erected on this spot by the St. Eric's Historical Trust 1977.

Ah, but yes. We have the idea developed to a form where it will fit on to the layout!

Over there, a couple of stations away, is a 5' by 1' strip.What will we have? The St.AMRA stud, large and beautiful, home of that famed stallion "Journal B Boy"? A large city complex complete with War Museum? Or a terrific Historical Park? Who knows, perhaps all three. (See later articles on project 77-07).

One thing we must do is to consider the effect the introducing the idea on to the layout will have on the layout. This will be the topic of the next article. In the final article we will look at some aspects of reality and financing it.

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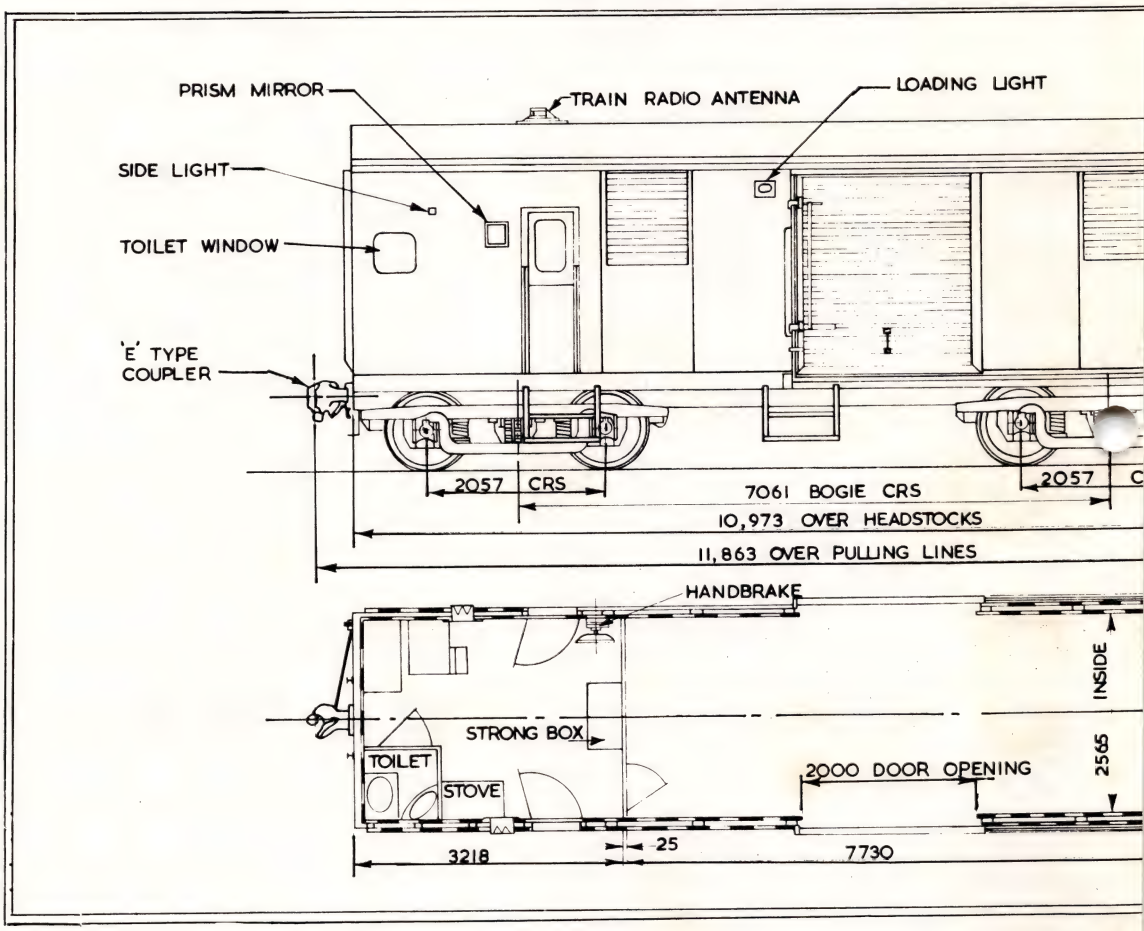
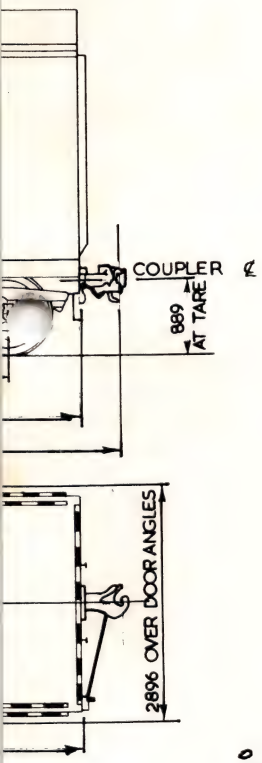
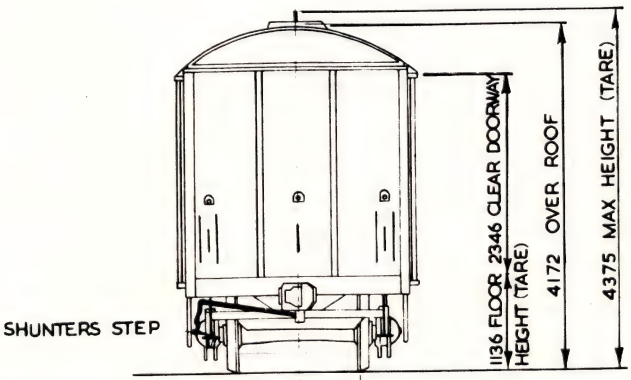


B-6





BODY ARRG T	DRG No 54297	
U/FRAME ASSY	DRG No 54298	
BOGIES 4'-8½" GAUGE	DRG No 51627	
JOURNAL SIZE	5"X 9" EQUIVALENT	
WEIGHT ON RAIL	34.960t	
TARE	22.960t	
LOAD	12t	
AIR BRAKE	WESTINGHOUSE (AF2)	
BRAKE CYLINDER	8"X 12"	
BRAKE % AIR (EQUIVALENT CAST IRON)	TARE 73.9 %	LOAD 47.7 %
BRAKE % HAND (EQUIVALENT CAST IRON)	TARE 74.9 %	LOAD 48.6 %
EMPTY/LOAD BRAKE	No.	
GRADE CONTROL	No.	

DIAG. No 3E/51300

W.A.G.R.	
CLASS	WBE
BRAKEVAN	

ment Railways. This per-
MRA Journal and the drawings

APPLICATION OF MODEL RAILWAY STANDARDS

By Peter Betts

Part 2 - Trackwork.

Introduction.

In part 1 of this series, the need for adopting standards was stated. Agreeing that standardisation is necessary is one thing; actually striving to adopt standards is another. This author is a modeller in 16.5mm gauge and has very little knowledge of the commercial field in other gauges. Unless otherwise stated, any reference to particular items will be applicable to 16.5mm gauge only, although any general principals will of course be applicable to any gauge.

Pointwork.

Points which conform to A.M.R.A standards in 16.5mm gauge are those having nominal flangeway dimensions of 1.25mm. If one wishes to obtain pointwork with these dimensions, there are only three alternatives known to this author. These are:

1. Buy Shinohara points locally.
2. Obtain from U.K. "scale" points. These employ the same 1.25mm flangeways.
3. Make your own.

Of these alternatives, number 1 appears to be the simplest, but as many users of these points will tell you, this brand suffers from short circuit defects.

One can obtain a good point branded "Ravenscale" from U.K. which do not have the same defects of "Shinohara" but Ravenscale points do not incorporate any route switching device in their construction, and they can be quite expensive if they are air mailed out to Australia. Surface mail may take up to two months, and this can be most inconvenient.

Making one s own points would perhaps be beyond the abilities of most modellers, although with the right equipment this can be easier and quicker than one might expect.

As there is no easy way out of this problem, consideration to each will be given.

Shinohara Points.

This brand of points are of the live frog type in which the frog, wing rails, closure rails, and point blades, are all electrically bonded together and insulated from each stock rail. This system has the advantage that the point blades themselves can make the necessary contact with their adjacent stock rail to switch the frog to the correct polarity for the selected route. This system has the disadvantage that the open point blade is at the opposite polarity to its adjacent stock rail and as the distance between these two rails may be less than 2mm, there is a chance that the back of a wheel flange may touch the back of this blade, thus causing a short circuit, see Fig. 1. Also these points incorporate wide and ugly pivot plates and tie bars.

These shortcomings can be easily rectified by anyone who is handy with a soldering iron, and has a supply of 1.6mm thick printed circuit board material (P.C.B.). The idea is to split the polarity of the point blades so that each point blade is always the same polarity as its adjacent stock rail.

The sequence is as follows:

1. The wide metal tie bar and pivot plate are removed and replaced by new ones made from 3.5mm wide lengths of P.C.B. The rails are soldered directly on to the copper cladding of this material.
2. Two plastic sleepers are removed from a position near the centre of the closure rails, they too being

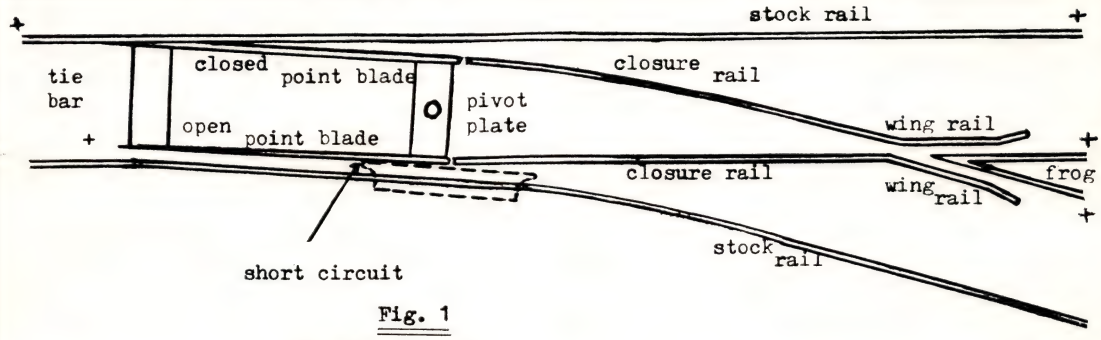


Fig. 1

Shinohara Point

Note how a short circuit will occur if the flange of the wheel running on the negative rail touches the back of the open point blade.

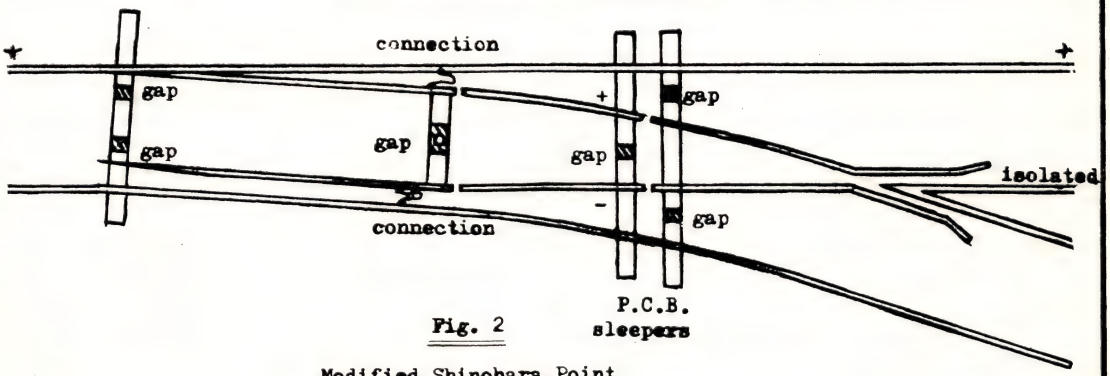


Fig. 2

Modified Shinohara Point

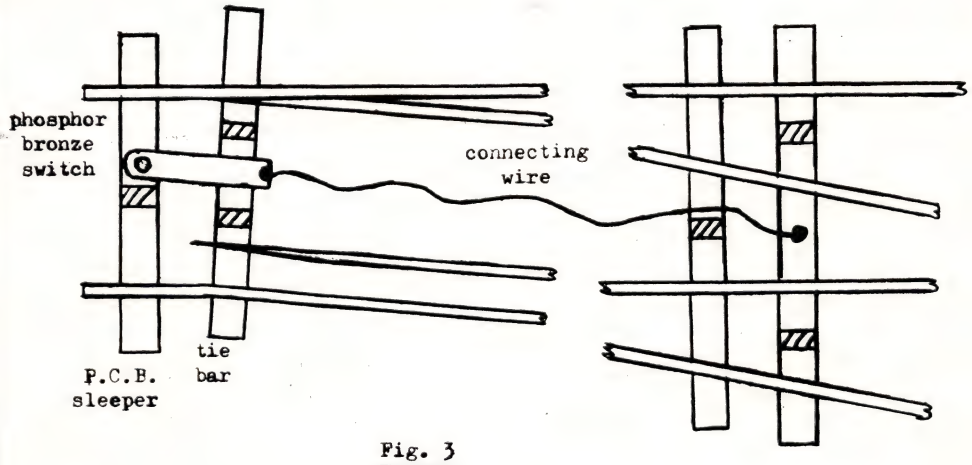


Fig. 3

Switch Construction

P.J.B.

replaced by ones made from P.C.B. Gaps are cut in the copper cladding as indicated in Fig. 2.

3. Using a razor saw or the like, both closure rails are cut through at a position between the two P.C.B. sleepers.
4. Each point blade is electrically bonded to its adjacent stock rail with thin flexible wire.

The point is now short circuit proof and its appearance considerably improved. There remains the problem of switching the frog to the correct polarity, for as the point stands after modification, the frog, wing rails, and half of each closure rail are isolated. If point motors or levers are used which incorporate electrical contacts, these can be used to switch the frog. If not, some sort of switch must be made, and the best way of doing this is to build one into the point itself by the following simple method.

See Fig. 3.

1. Replace the plastic sleeper closest to the tie bar with one made from P.C.B.
2. Make a 1mm gap in the copper cladding of this sleeper.
3. Solder a short length of 0.2mm thick by 2mm wide phosphor bronze strip to the tie bar so that it makes a spring contact with the P.C.B. sleeper. The contact end of the phosphor bronze strip should be centre punched so as to produce a small pip on the underside where actual contact is made.
4. Connect a length of thin flexible wire between the phosphor bronze contact strip and frog.

Ravenscale Points.

Over recent years there have been several brands of pointwork on the U.K. market, incorporating P.C.B. sleepers and made to fine scale standards. The brand currently available has a construction similar to the modified Shinohara point just described, but unfortunately, does not incorporate any sort of switch. An identical switch to that illustrated in Fig. 3 could easily be built into this brand of point.

If anyone is contemplating buying a large number of these points by mail order, it is worth stipulating that they should be posted in a number of small parcels rather than in one large parcel, since small ones are less likely to be involved with import duty. It is usually safe if the value of the parcel is less than 10 pounds sterling.

Handbuilt Points.

It would be outside the scope of this article to give a full description of pointwork construction. The method of soldering rail directly on to P.C.B. sleepers is the one recommended. Off cuts of P.C.B. are readily obtainable these days, and these can be quillotined to the right size sleepers. Nickel silver rail can be obtained from Model Railway Shops in 3 foot lengths, and the Peco brand is the one recommended, for its dimensions are more regular than those of other brands known to the author. If either rail or sleeper material cannot be obtained locally, then mail order from U.K. is always reliable.

The most important item necessary for point construction is a good accurate construction gauge. It is possible to make points with the use of vernier calipers only, but this will require about double the time, and result in less accurate dimensions. Construction gauges can be made on a lathe (roller gauges), or on a milling machine. The latter is by far the better method, for a greater accuracy can be obtained, and the rectangular section gauge thus obtained is easier to use. There is no commercial outlet for track construction gauges made to A.M.R.A. standards, and as a service to the hobby, the author will personally produce track construction gauges for anyone who likes to contact him. Simply quote the track gauge dimension and rail head thickness for which the gauge is intended. The latter should be measured with a micrometer reading to one hundredth of a

millimetre. Enquiries should be directed to P.J. Betts, 40 Merrilee Cres. Frenchs Forest, N.S.W. 2086, Tel. 02-451 9744. This service is for modellers wishing to adopt A.M.R.A. standards only.

Conclusions.

There is a great reluctance among manufacturers to produce pointwork to fine scale standards. A manufacturer cannot be expected to produce items for which there is very little demand, so it is up to all serious modellers to start demanding. By refusing to accept "second best" trackwork and taking the trouble of employing reliable items that conform to A.M.R.A. standards one will be as such creating the demand.

The next article in this series will be devoted to wheel sets and rolling stock.

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Early American track gauges

BY BROUGHTON BOYDELL

Today, with many early American model locomotives available, I wonder how many modellers realise the prototype were not the standard gauge (4' 8½") that we know. The early American railroads were a strange mixture of gauges. Everyone engaged in the pioneering effort of producing locomotives had his own ideas of what track was needed to ensure stability and successful operation. Many track gauges just happened because the promoters bought a locomotive of that gauge, others seemed to have no particular reason in planning for their choice of gauge.

Some of the earliest bought their locomotives from Stevensons of England, so they started in 4' 8½" simply because their locomotives were that gauge, home built locomotives varied from this. Peter Cooper's famous Tom Thumb was built to 4' 6" gauge, which Baltimore and Ohio used at first. Their engineering corps seemed unable to make up their minds what gauge to use, but finally settled for 4' 9½" gauge.

Roger Ketchum and Grosvenor, of Paterson, New Jersey, built their first locomotive, which was named "Sandusky". It was built for the New Jersey Railroad and Transportation Company which had 4' 10" gauge track. Sandusky made its first run on October 6th 1837, and was to set what almost became a standard for track. Instead of going to the New Jersey Railroad it was shipped West by canal boat and lake steamer, arriving in Ohio in November.

The Mad River and Lake Erie Railroad who had purchased Sandusky had no track, therefore the track was built to conform to the engine. The State Legislature then passed an Act enforcing all railroads in the State of Ohio to be 4' 10" which then became known as the "Ohio Gauge".

The Erie Railroad of Pennsylvania settled upon the wider gauge of six feet, and clung to it tenaciously. That caused a law in Pennsylvania to be passed requiring all railroads built from the City of Erie (the headquarters of the Pennsylvania Railroad) to the State of Ohio line to be 4' 10" gauge. So Erie had three different gauges radiating from the city.

Another railroad using 6' 0" was the Delaware and Hudson, which it referred to as "Standard Gauge". It was because of this that many old books on American Railroads mean 6' 0" gauge when they use the words Standard Gauge.

While the Delaware and Hudson refered to 6' 0" as standard gauge, it also maintained many miles of 4' 3" gauge, serving the mines at Scranton and Holmesdale in Pennsylvania, and in so doing defied Pennsylvania laws which outlawed 4' 3" gauge. Actually these lines were some of the original lines laid in America.

Some of the gauges used by the better known companies at this time were: South Carolina - 5'0", Mohawk and Hudson - 4' 9", Camden and Amboy - 4' 9¾", Baltimore and Susquehaunna - 4'9¼", the latter three, along with Baltimore and Ohio 4' 9½", all adjoined at some points. I often wonder if they ever trespassed on one anothers tracks, and if so what were the results.

The Susquehaunna and Eagles Men used 3' 8", Philadelphia and Atlantic City 4' 1", St.Lawrence and Atlantic railroad 5'6". The last ran from Montreal to Maine to provide a short and quick route from the Canadian city to the Atlantic ocean.

In 1871 there were 23 gauges in America ranging from 3' 0" to 6' 0", however nine years later there were many more ranging from the two footers being built in Maine, to an eight foot logging railroad in Oregon. Passengers often made as many as three changes of train in one State, never the less by 1880 a very definate pattern was emerging. The Northern States were using 4' 8½" or 4' 9" gauge while those of the South were generally 5'0" gauge. There were exceptions, for one could travel from New York to St.Louis using six foot all the way. This was because the Erie, who tenaciously stuck to the six foot, had joined to other six footers such as Ohio and Mississippi railroad.

Any railroad north and south had a lot of trouble. The Illinois Central from Chicago to New Orleans in the south had 4'8½" from Chicago to Cairo (Illinois) then 5' 0" gauge to New Orleans. All trains had to stop at Cairo and be lifted bodily while they had their bogies exchanged before continuing on their way. Such conditions could not endure, but the South with 15,000 miles of 5' 0" gauge track were reluctant to change. The North having many miles of 4' 8½"& 4' 9" gauge, and a greater number of locomotives and rolling stock, were not likely to change.

The Illinois Central took the step in August 1881. During the week the spikes on every second tie were pulled and a spike driven and a spike hole bored in readiness for the rail to be shifted in. All track crews were assembled one day, and after the last train passed they moved one rail inwards, by noon the next day the whole of the Illinois Central was standard gauge.

All other railroads soon had to do something in order to maintain a competive position. The weekend starting May 29th, 1886, was selected for the change. Again beforehand all alternative spikes were drawn and new positions prepared inwards. Thousands of workmen were engaged and gathered along the track; the last trains passed on Friday, and the work was done so quickly that Monday morning saw 4'8½" as the standard gauge of America.

Regauging locomotives and rolling stock was not quite so quick, and shortages of both did cause trouble for a short while. When the Illinois Central changed to standard gauge, it made such an impact that many manufacturers realised what must happen. So much so that the Rogers Locomotive and Machine Works, after 1881, supplied all 5' 0" gauge locomotives for Southern lines with wheels with a thicker than normal centre, and a rim to 5' 0" gauge that could be pressed in to 4'8½" gauge any time. From 1881 all the larger manufacturers made changes in anticipation of a reduction of gauge.

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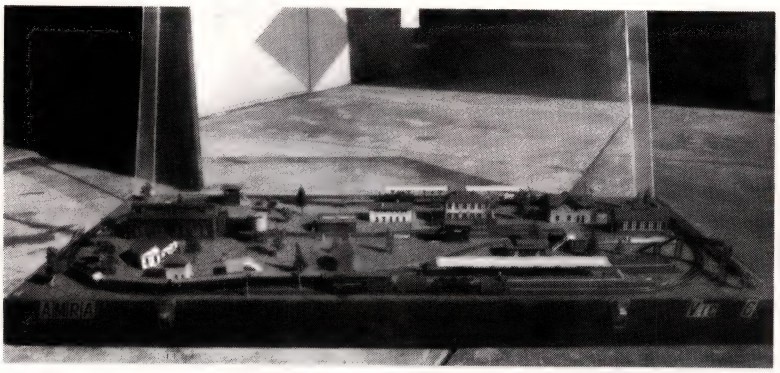
NSW "6027" down goods one mile north of Wyee 23/12/67. - Photo Kevin Brown.

AN AUTOMATED 'N' GUAGE LAYOUT

By Rex Little



The Victorian Branch inherited a 4'9" x 2'1" "N" gauge layout from the late John Sneddon, and it was decided to use this layout, with others the branch either owned or had access to, for display purposes at Fetes, Exhibitions, etc. After losing a few items of rolling stock, a perspex cover was made and fitted.

It was then decided to automate the layout, and have three trains moving one after the other. To this end a gauntlet track was added, the track was divided into four sections and the relay circuit shown in the schematic diagram was installed. Provision was left to operate the layout manually, in the case of derailments, or if an operator was available.

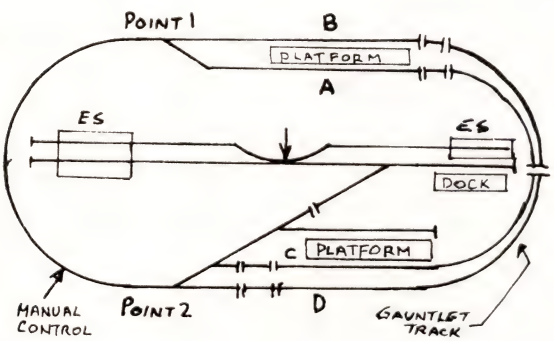


FIG.1.

SCHEMATIC TRACK DIAGRAM

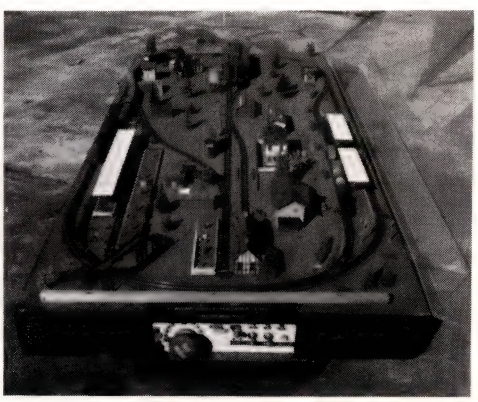
The automatic circuit works as follows:

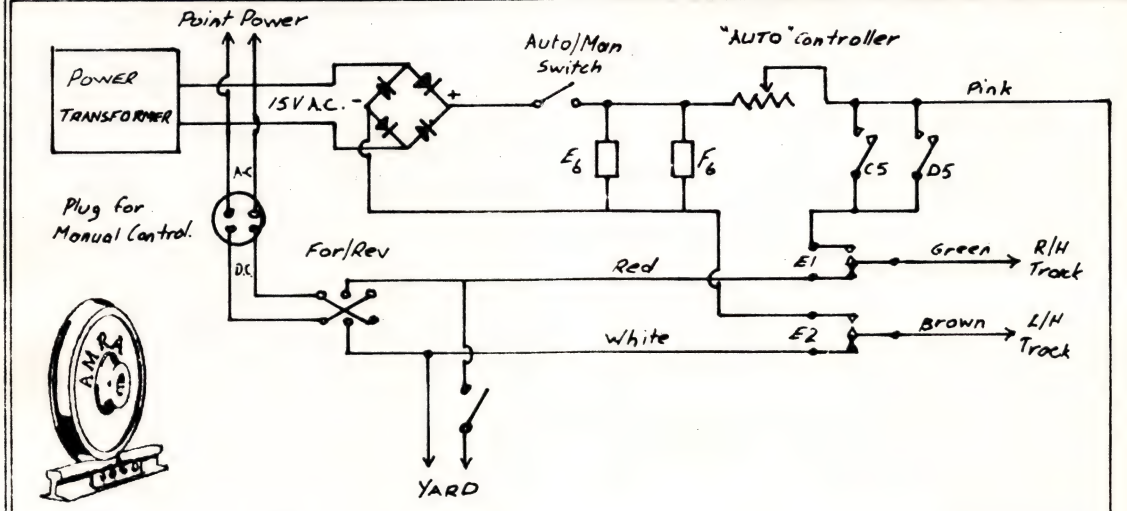
Trains are set up on B, C, and D tracks in a clockwise direction.

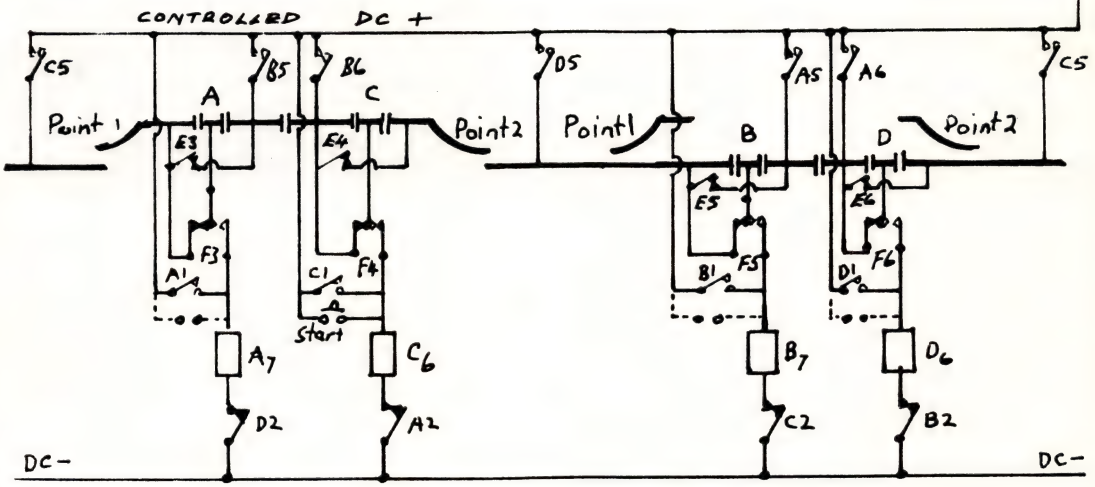
The AUTO control is switched on and the speed control set to the required speed, then the "start" button is pressed.

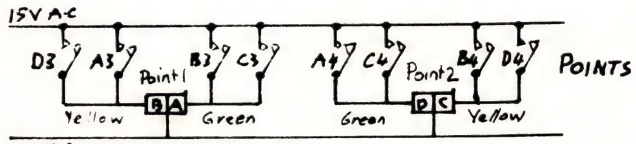
The train at D proceeds to A, and stops. The train at B proceeds to D, and stops. The train at C proceeds to B, and stops. The train at A proceeds to C and stops. The cycle continues until turned off, or a train de-rails.

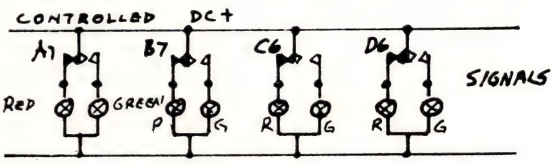
For derailments, the Auto controller is turned to minimum speed, the train re-railed and the speed reset. If the power is turned off, trains must be re-arranged to the starting position,











SYMBOLS:—
Break in track
Relay
N/o contact
N/c contact
c/o contact
Switch
Push button
Lamp

FIG. 2.

SCHEMATIC DIAGRAMS (contacts shown remote from Relays)

'77

either by the manual controller, or by hand, before switching to AUTO and re-starting. Power "off" or "manual" de-energises all relays.

RELAY FUNCTIONS.

The AUTO switch energises relay E6 and F6 which 1. connects positive power to the right hand rail for clockwise running via the AUTO controller; 2 connects negative power to the left hand rail; 3. opens the bridges across the gaps at "A", "B", "C", and "D". In connecting power to the track, the "manual" controller is switched out of circuit to the main track, and the plus power is applied via the contacts C5 & D5 of the C and D relays.

The START button energises the C6 relay, and the train at D moves to A, contact C1 locks the relay ON, contact C2 opens the circuit of the B7 relay, contact C3 switches Point 1 to "A"track contact C4 switches Point 2 to "D" track and contact C5 energises the track between "D" and "A", contact C6 changes the signal at "D". On reaching "A" the train energises the A7 relay and stops.

When the relay A7 is energised, the train at "B" moves to "D". Contact A1 locks the relay ON, contact A2 opens the circuit of the C6 relay, contact A3 switches point 1 to "B" track, contact A4 switches point 2 to "D" track, contact A5 energises the track ahead of "B", contact A6 energises the track behind "D", and the A7 contact changes the signal at "B". On reaching "D" the train energises the D7 relay and stops.

When the relay D6 is energised, the train at "C" moves to "B". Contact D1 locks the relay ON, contact D2 opens the circuit of the A7 relay, contact D3 switches point 1 to track "B", contact D4 switches point 2 to track "C", contact D5 energises the track between "C" and "B", and the D6 contact changes the signal at "C". On reaching "B" the train energises the B7 relay and stops.

When the B7 relay is energised, the train at "A" moves to "C". Contact

B1 locks the B7 relay ON, contact B2 opens the circuit of the D6 relay, contact B3 changes point 1 to "A" track, contact B4 changes point 2 to "C" track contact B5 energises the track ahead of "A", contact B6 energises the track behind "C", and the B7 contact changes the signal at "A". On reaching "C" the train energises the C6 relay and stops.

When the C6 relay is energised the train at "D" moves to "A", thus repeating the sequence.

A start button has since been added to each other relay, so that it is only necessary to set up the trains in any three locations, and then press the start button to send the appropriate train into the vacant position.

No doubt some of our other electrical wizards can come up with a simpler circuit which will do the same thing. The Victorian Branch would like to hear from them, as from bitter experience the present circuit is not the easiest one in which to find those elusive gremlins.

FOR
READER'S LETTERS

The Editor,
AMRA Journal.

Dear Sir,

Just prior to Christmas 1976, I spent a very enjoyable two weeks in Sydney. The fact that I am a member of AMRA contributed in no small way to that enjoyment.

When our holiday plans were decided upon, I wrote to our good friend Norm Read seeking his help, model railway-wise. He referred me to George Bray and I am sure no other organisation has such a worthy ambassador as George. He met us at the train, took us to the Peoples' Palace, and then arranged to meet us during the week. On that occasion he took my son Paul and I on a Cook's Tour of the International Airport before going to John Dunn's where we had a very enjoyable evening and enrolled Paul as a Junior member. On the middle Saturday, he took the family to the Lithgow Zig-Zag where I renewed acquaintance with our ex Q.G.R. tank engines. From there we went to Katoomba and then on to Thirlmere to the Museum. After leaving the museum, we went to Bulli and then up the coast home. On the second week, he took us to Harold Warren's where another very enjoyable evening was experienced.

I would like to thank John and June Dunn, and Harold Warren, for having Paul and I at their homes and making us so welcome.

However, I cannot say enough in appreciation to George and his good wife for the way they made us welcome and treated us as members of the family. With people like this in AMRA, how can it go wrong?

John Treacy.
Rockhampton, 4700.

Dear Sir,

I am paying my dues for 1976-77 to remain a member of the Queensland Group. I had thought to resign my membership completely, but I have many friends in the Branch.

I was not going to renew because I think it a waste of money for four issues of a useless magazine, and as no money is returned to the State branches this makes it a total waste.

Now, having got the winges out, something more constructive. I feel that Journal is taking too much of AMRA's budget, and would be better if reduced to a broadsheet of club doings.

The AMRM is better value for money, and may be it would be better for AMRA to take out a bulk subscription for members and include a roneod news sheet; that way some return can be made to members.

The other method would be to have a drastic look at the editing and production of a more up to date and more modern and simpler publication, as there is only one other magazine I receive that is as old fashioned, and that is a scouting magazine.

It is most necessary that AMRA improve its image. I feel that unless you live in Sydney or Melbourne, the rest of the Association might not as well exist, and I shudder to think what country members get out of AMRA.

AMRA, as an organisation, is too insular, and unless we all get a stimulus to get going again and be a dynamic organization, well -----

Sorry for the bitching, but that is how I feel at present.

Jim Fainges.

Dear Sir,

I have received the following letter from Peter Bramley, of Holt Model Railways, Swansea, U.K. This letter is the result of a written discussion between us, some 12 to 18 months ago regarding the delays encountered here in the West, with surface mail from the United Kingdom, particularly after the oil crisis, when the container ships from U.K. were going to the Eastern states first and calling at Freemantle on the way back to U.K. Surface mail was taking on average 12 to 16 weeks.

I would appreciate if you could ask your local branch members for their reaction to the proposal, and let me have their comments for forwarding to Holts.

The letter reads:

"You may recall that some time ago you asked if there was any way of speeding up the surface deliveries from the U.K. to Australia.

I made some initial investigations but the results were not at all attractive.

However, I have pursued the matter this time with the Post Office rather than independent surface companies. At first the P.O. was not at all interested, however the matter finally crept up to London where we were fortunate to find someone at a senior level who was prepared to do something, and the result is set out below.

They are prepared to undertake for us a system which they call "Accelerated Surface Post" which functions this way. We collect together all our parcels for Australia in separate mail bags, and on a specified date each month they collect from us. The bags are then transferred to Heathrow Airport where they are loaded into spare cargo space, flown to Sydney, where it is off loaded and put into the normal mail circuit. They are talking about delivery in Australia 14 to 21 days after collection from us in the U.K. This means that the highest transit time from the date we receive an order, assuming that it just misses the monthly despatch, is 7 weeks as against 12 to 16 weeks surface mail.

I was expecting a considerable increase in cost for this service, but the additional rate is around .60p per kilo, average parcels weigh 2 kilo, therefore the increase in postal cost is only £1.20 for halving the delivery time. The difference berween this and normal airmail is enormous. (£1.20 is $1.88 at to-day's rate).

We are the first company in Wales to have discussed such a proposal with them, and they seem keen over the idea.

My reaction was to go ahead at once, but I thought that before doing so, you may be prepared to offer me a re-action to the proposals.

The only reason we have managed to negotiate this arrangement is that we can offer the Post Office a minimum despatch to Australia each month, they obviously hope that by offering this service to us, our business in Australia will increase and therefore so will theirs.

I would appreciate any comments and reactions from you as soon as possible."

I have spoken to most of the regular attenders at our branch meetings, and also to a number of non-member modellers and have received a very favourable response, which I have already written about to Holts.

Ted Thoday.
President.
W.A. Branch.

~~strange away all complex~~

NOTICE

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BRANCH NOTES

QUEENSLAND.

Our first meeting for 1977 was held at the home of Ron Carter, a modeller of long standing. Ron showed us his extensive layout based on American prototype. An enjoyable time was had by all who attended. Many thanks are extended to Ron for his hospitality.

I was the host for the February meeting, which was held in conjunction with the model competition. The competition which is held in three sections - Locomotives, Passenger Coaches, and Goods Vehicles, - was won by Peter Sanderson in the locomotive section, for his fine model of a N.S.W. Z25. Arthur Hayes won the goods section with a fine model of a Q.R. camp wagon. As there were no passenger vehicles entered, this section has been deferred for one month. As this was a running night, many members brought rolling stock of many makes and models.

Our March meeting was hosted by Ken Edge-Williams. Following discussion of branch business, Arthur described the four classes of drawgear in operation on the Queensland Railways, pointing out the various wagons which are ascribed to each class. He also described the methods of making up trains comprising wagons with a mixture of drawgear. We looked over Ken's layout and viewed some of his fine models of Queensland Railway prototype.

Future Meeting Dates:

April 28th At John McDicken's Lot 54 Merrylands St. Jimboona. Proceed via Camp Cable Rd. off Beaudesert Road. HO layout operation.

May 26th At Cec Wall's, 8 McEwan St. Riverview. Annual election of Office Bearers. Scenery demonstration and HO/HOn3½ operation.

Are you interested in Modelling Qld Railways rolling stock? If you are, the Queensland Group meets every second Thursday night. Contact the Secretary for details by phoning 48 5161 during office hours.

Neil Johnman.
Branch Reporter

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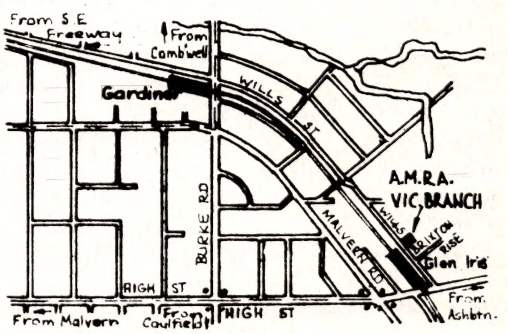
VICTORIAN BRANCH NOTES



General meetings are held on the second Thursday each month, commencing at 8 p.m. at the clubrooms, 92 Wills St., Glen Iris. The clubrooms are open from 7.30 p.m. on these nights for operation of your HO or N gauge trains on the club layout. Working bees with operation on the club layouts are held on Wednesday nights with the exception of the Wednesday night before the general meeting.

Our Exhibition held over the Moomba weekend was our best ever, and undoubtedly the premier Model Railway Exhibition in Australia. The 30 stands presented individual ideas on model railways

with one tramline which attracted considerable interest because of the scratch built trams which covered many varieties from home and abroad.

Certificates were awarded to Joyca Hobbies for the Best Commercial Stand, and the Wild Creek, Endeavour Hill and Burwin Railroads combined layout for the Best Private or Club Stand. The Open Modelling Competition was won by John Ritter, whose 7mm scale L.B.S.C. "D2" steam loco was a real gem.

The Committee of Management would like to express their thanks to Jim (A.H.G.) Scott and his committee for the organisation and operation of the stands. A special thank you is extended to Mrs. Win. Scott and her helpers for the varied meals which were provided for the volunteers and stand members.

Our Annual General Meeting, held on the 10th April, was the first in recent years when election of the C.O.M. was declared "No Contest" by our Returning Officer. The Committee for the ensuing year is as follows:

President	Ray Brownbill
Vice President	Bill Wilson
Secretary	John Harry
Treasurer	Stuart Westerman
Committee	D. Ferguson, W. Morehouse J. Treseder.
Property Committee	N. Ritchie G. Brown, W. Brisbane.
Librarian	B. Southwall

The agenda for the coming year has yet to be finalised by the new C.O.M., but meetings will be held on the following nights: 14th July, 11th August, and 8th September.

John J. Harry
Hon. Sec.

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A new group has been formed in the Newcastle area, called the "Trax Rail Society", with members interested in all forms of railway mania. Meetings are held every second night at various locations. Phone contacts to 54 0258 54 7754 and 54 6357, or write to A. Ravelli, P.O. Box 5231D, Newcastle West, 2302.

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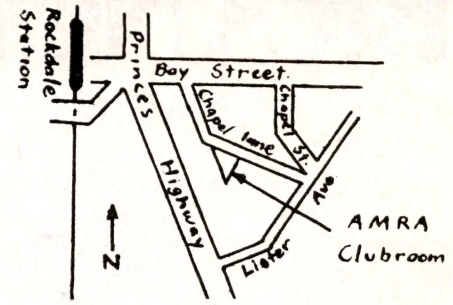
NEW SOUTH WALES. BRANCH NOTES



Branch meetings are continuing normally, with fairly predictable attendances. Film nights and auctions continue to be most popular, with scenery demonstrations not far behind. Scenery demonstrations are usually conducted by our expert, John Dunn, while Phil Kelly is our able and competent auctioneer.

Layout operation meetings are popular with the younger members, and the Wednesday night group continue their efforts. Several projects are in hand, "O", "HO", and "N" scale layouts are being constructed simultaneously, which must be something of a record.

The modelling clinic has only about half a dozen active supporters. There are a few who like to look on, but as a way of learning, looking on is a long way short of active participation. The modelling clinic will need much more support if it is to be continued beyond the life of the present roster.

The branch took part in the Willoughby Festival Model Railway Exhibition. The stand included a six feet by two feet N scale layout built by Audrey and Roy Cornish, which was a very fine effort. Copies of "A Guide to Model Rail ways" were on sale, and photographs of model and prototype railways were displayed.

A party of about fifteen members visited Melbourne on the occasion of the Victorian Branch Exhibition, and we were made very welcome. Our thanks are due to the Victorian Branch, and

especially to Dot and Jack Treseder, who somehow found time to look after us in spite of being busy with exhibition work.

As most members will by now be aware, your committee passed a motion that only financial members be allowed to be present at the formal part of the Branch Annual General Meeting. It is a perfectly normal practise at meetings of this nature in other organisations to ask "will visitors please leave", and, if necessary, to check the credentials of any one present. We sincerely hope that no one is going to take affront at this.

The amendment to the branch constitution regarding the method of disposal of branch assets was carried. This and the decision on attendance at the A.G.M., are examples of how your committee is trying to bring the admisistration of the branch to a more mature level.

Many years ago we were a social group meeting at various member's homes. Most model railway clubs still operate this way, and the meetings can be very rewarding, but it is a long time since the branch has been able to operate this. Yet much of the thinking, and some of the administrative methods,are a hangover from those times.

Our branch constitution is, of course, much younger, but the branch simply has to grow up. When changes become necessary your committee has to take steps to impliment them. We would be lacking in responsibility to do otherwise.

Members, you have a standing invitation to attend the committee meetings and observe the proceedings. Committee meetings are held on the second Wednesday evening of the month, at the Rockdale clubrooms.

Future meetings:

June.

Sat. 4th AUCTION. Items for sale to be in by 2.00 p.m.

Fri. 10th Model photography clinic by Jack Parker. (Bring your camera).

Sat. 18th Layout operation.

Fri. 24th Layout operation. Test of Tickhole tunnel layout.

July.

Sat. 2nd Modelling structures,by Alan Preston.

Wed. 6th Mid-year dinner. (Watch the notice board).

Fri. 8th Modelling clinic. Transistor controllers, by T. Parkes.

Sat. 16th Layout operation.

Fri. 22nd Slide and historical talk, by Noel Thorpe.

August.

Sat. 6th Layout operation.

Fri. 12th Modelling clinic. Trees by John Dunn. (We'll need hundreds for the Tickhole Tunnell layout).

Sat. 20th Layout operation. More Tickhole Tunnell trials.

Fri. 26th Film night. (Films from the NSW Film Council).

WATCH THE NOTICE BOARD FOR ADVICE OF ANY CHANGES.

Jack Parker.
Branch Reporter.

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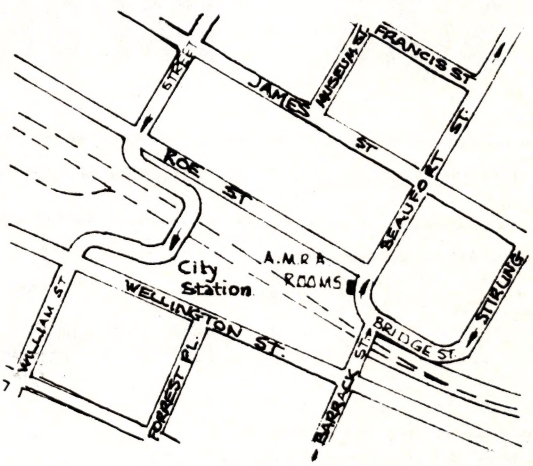
WESTERN AUSTRALIAN BRANCH NOTES



Visitors and prospective members of A.M.R.A. are always welcome at any of our meetings. Anyone interested can write or phone the Secretary for further information: —

Mr. Jack Eagles,
26 Swan Road,
High Wycombe, W.A. 6057.
Phone: 60 5005